Kelly Air Force Base

Installation Restoration Program

SITE OT-1 CLOSURE FACT SHEET

September 1999

A fact sheet providing information on closure of the former Liquid Waste Incinerator site

BACKGROUND

Site OT-1 (SS039) is a former liquid waste incinerator, located about 400 feet north of Leon Creek in the central part of Kelly Air Force Base IRP Zone 2. Construction on the facility began in 1974 and it operated from 1977 to 1982. Associated with the incinerator were four 5,000-gallon aboveground storage tanks, two 1,350-gallon concrete-lined mixing pits, and concrete containment areas.

Field testing at the site in the early 1990s revealed levels of contamination above Medium Specific Concentrations (MSC), although a risk assessment indicated they posed no hazard to human health and the environment. A Decision Document was issued in 1993 concluding that no further action (NFA) was required. Analyses conducted in 1999 on samples collected to confirm closure under Texas Risk Reduction Rules showed similar results, and further evaluation confirmed the original decision.

HISTORY OF OPERATIONS

When the liquid waste incinerator went into service in 1977 near the former industrial waste treatment plant, it was intended primarily to incinerate waste **cyanide*** solutions. Waste oil and jet fuel were used along with natural gas as fuel for the incinerator. Other liquid wastes believed to have been incinerated at the facility include pesticides, carbon-removers, **phenols** and **orthodichlorobenzene** (DCB).

Two of the four 5,000-gallon storage tanks built next to the incinerator were used to store the waste oil and jet fuel. Waste chemical solutions to be incinerated were stored in the remaining two tanks. The incinerator had the capacity to burn 100 gallons of liquid wastes per hour.

After going into regular operation, the incinerator experienced several breakdowns and in early 1982 a decision was made not to use it any longer. In 1986, the incinerator, mixing pits and containment areas were demolished. Meanwhile, the four storage tanks were purged, decontaminated and removed. The site is now covered with grass.

THE CONTAMINANTS

Results of laboratory analysis of soil samples taken from Site OT-1 in 1990 and again in 1992 showed that only low concentrations of organic contaminants were present – in all cases below the **Preliminary Remediation Goals** (PRG) established for each contaminant at the site. The volatile organic compounds (**VOCs**) found were methelyne chloride, xylene, acetone, benzene and tetrachloroethene.

Investigators found 14 semivolatile organic compounds (SVOCs). Cyanide and toxic metals including arsenic, barium, cadmium, chromium, lead, nickel and zinc also were detected in concentrations well below the established (PRG) for each. However, cadmium, chromium, lead and nickel were detected in numerous samples at concentrations slightly above present Risk Reduction Standard No. 2 (RRS-2) closure criteria set by the Texas Natural Resource Conservation Commission (TNRCC).

Soil samples taken in 1999 found low levels of many of the same organic compounds and detected concentrations above background levels of a number of metals: antimony, arsenic, beryllium, cadmium, chromium, lead, mercury, nickel and thallium.

* Terms in bold face are discussed in the glossary.

Storage tanks for solvents, cleaners and waste fuels were built next to the Liquid Waste Incinerator, at left.

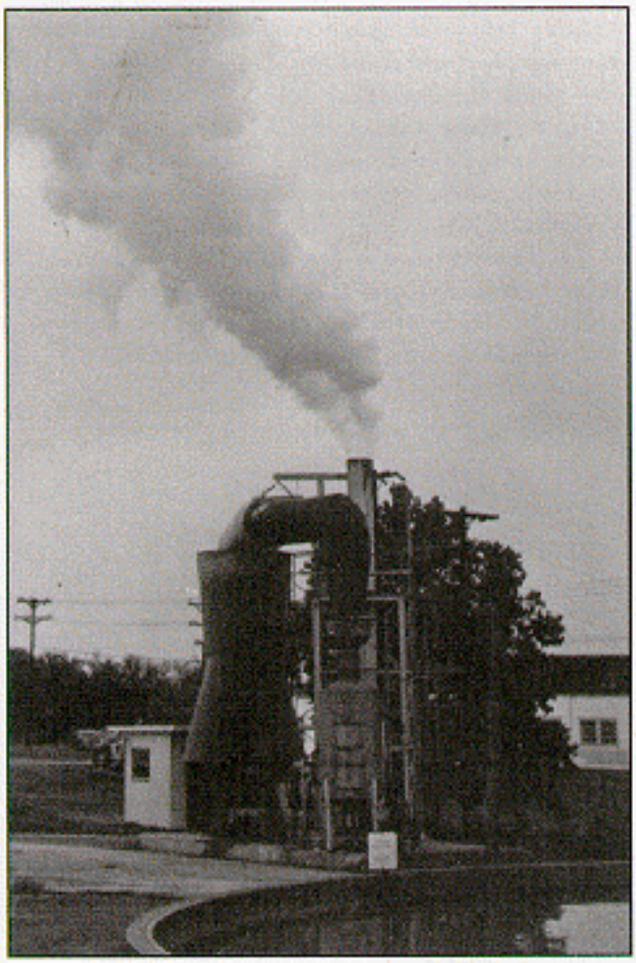
SITE CLOSURE

In 1993 field investigations were conducted of the soil around the incinerator and related structures, including 13 soil borings and collection of soil samples that were analyzed for metals, VOCs, SVOCs total petroleum hydrocarbons (TPH), pesticides and **PCBs**.

A Decision Document was prepared in 1993 to close the site with no further action required. Because the Final Compliance Plan issued in 1998 identified Site OT-1 as one of the sites in Zone 2 requiring closure, additional samples were collected to see if the site could be closed under existing risk reduction rules. Results of the re-examination would be compared to the RRS-2, which requires cleaning up the site so that any substantial threat to human health or the environment is reduced to acceptable levels.

In 1999 six new soil borings were installed at the former incinerator site, from which 26 soil samples were collected at various depths between the ground surface and the shallow groundwater zone. The soil samples were analyzed for VOCs, SVOCs, **dioxins**, and metals.

The results of the analysis and their evaluation using the TNRCC's risk-based approach are reported in the Closure Report-Sites S-9, FC-2, and OT-1. That evaluation confirmed the original NFA decision. Although concentration levels of metals were detected above background level, analysis indicated they met RRS 2 closure criteria.



The Liquid Waste Incinerator could burn 100 gallons of waste liquid an hour.

This closure action applies only to the soils at Site OT-1. However, groundwater samples collected in June 1999 as part of a basewide remedial assessment indicate that soil contamination at Site OT-1 has not adversely affected groundwater. The contaminated groundwater that is under the site is being considered separately in overall studies of groundwater in Zone 2.

GLOSSARY

Cyanide: Cyanide is used in electroplating and many other processes. According to the EPA, there are no reports that cyanide can cause cancer in people or animals.

Dioxin: Some dioxin and dioxin-like compounds are very toxic and may cause cancer in humans. They are the products of the combustion of hydrocarbons and chlorine.

Orthodichlorobenzene (DCB): o-DCB is a toxic liquid that is moderately biodegradable when released to the soil. It does not dissolve easily in water and is not known to cause cancer.

Organic Compound: Any chemical compound containing carbon along with hydrogen, nitrogen or oxygen.

PCBs: Polychlorinated biphenyls are a group of manufactured organic chemicals that were widely used in electrical transformers.

Phenols: These are organic compounds that are byproducts of petroleum refining and a variety of manufacturing processes. Low concentrations cause taste and odor problems in water; higher concentrations can kill aquatic life and humans.

Preliminary Remediation Goal (PRG): Preliminary Remediation Goals establish acceptable exposure levels to protect human health and the environment based on regulatory requirements, EPA acceptable risk levels and assumptions about what the land will be used for and how people might be exposed. They were used to guide the cleanup process but are not the same as the final cleanup standards.

VOC: Volatile Organic Compound. Any organic compound that evaporates readily and participates in atmospheric photochemical reactions except those designated by EPA as having negligible photochemical reactivity.

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